

SEGMENT 1	Ponderosa Bridge to Long Point Trail; approximately 16,483 feet
SEGMENT 2	Long Point Trail to Upper Lake Clementine Road; approximately 12,004 feet
SEGMENT 3	Upper Lake Clementine Road to Lake Access Trail; approximately 16,872 feet
SEGMENT 4	Lake Access Trail to Lake Clementine Road; approximately 12,261 feet
SEGMENT 5	Lake Clementine Road to Confluence; approximately 9,277 feet

COST ESTIMATE

Trail construction costs are directly related to the design criteria established by the Trail Advisory Group. The TAG has recommended a four-foot wide trail with pullouts using hand construction. In addition, the meandering style of trail design approved by the TAG is more time consuming to construct and increases the actual length of the trail, therefore driving up the cost.

The total estimated construction cost of the project is **\$1,286,550** (see the summary cost estimate that follows *Figure 15*). This estimate does not include any administrative or land acquisition costs. The estimates are based on using California Conservation Corps (CCC) hand crews. Maps of the five (5) individual trail segments, along with detailed cost estimates to construct each segment, are also provided in this section.

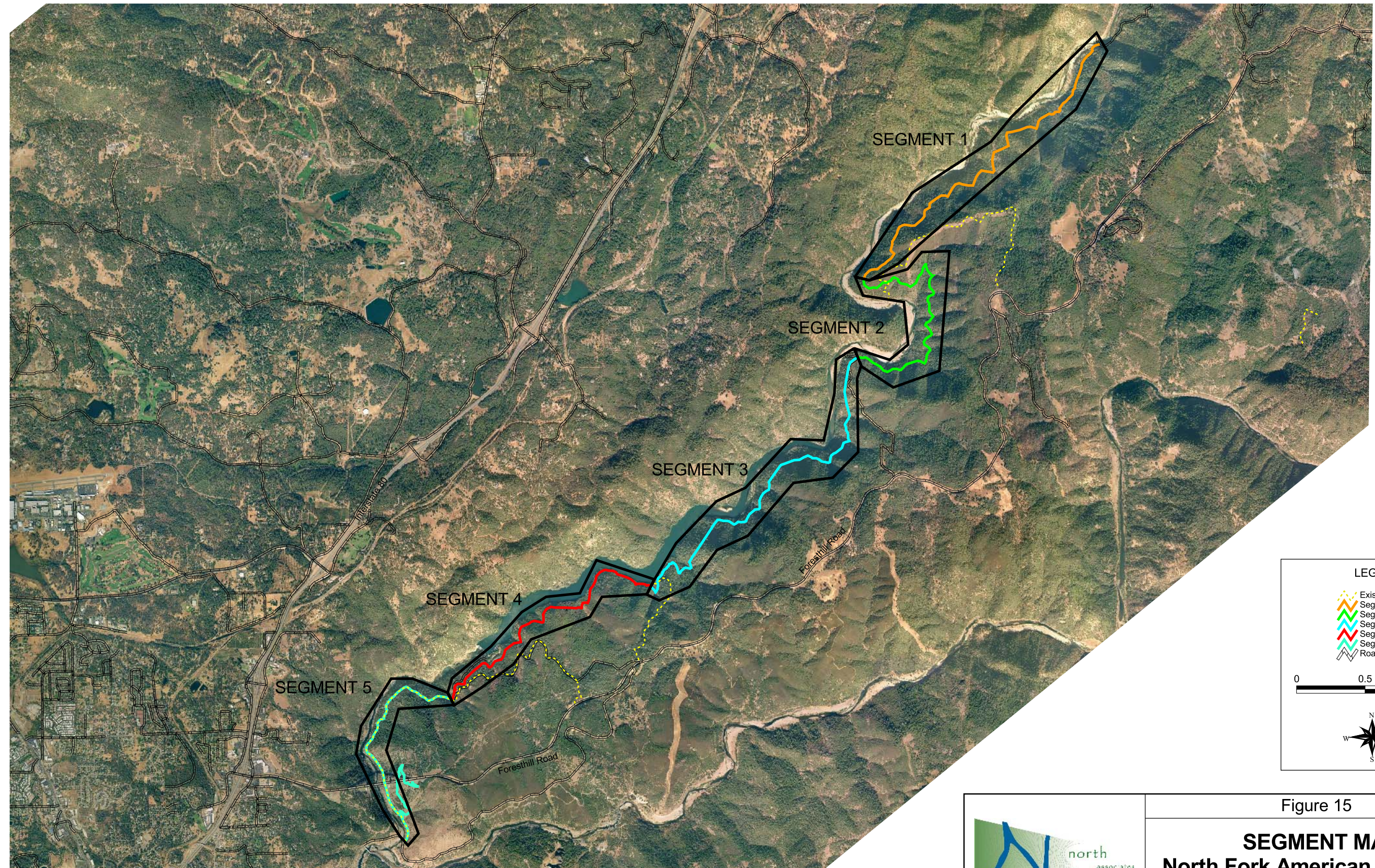


Figure 15

SEGMENT MAP
North Fork American River Trail
Placer County, California

Cost Summary pg 1

9/19/2003

Project Title: North Fork Trail - Hand Construction

Location: Placer County, California

Project Manager: Placer County

Technical Supervisor: Placer County

Proposed Work Force: CCC/Contract

Estimated Project Length: 164

* weeks with 12 person crew, 7 hour work day

Estimated Labor Cost: See Attached Summary Sheet

Estimated Material Cost: See Attached Summary Sheet

Estimated Project Cost: \$1,286,550

Funding Source: _____

Project Need:

Health and Safety:

☐

Resource Protection:

☐

Preservation of Investment:

☐

Visitor Convenience:

☐

Capital Outlay:

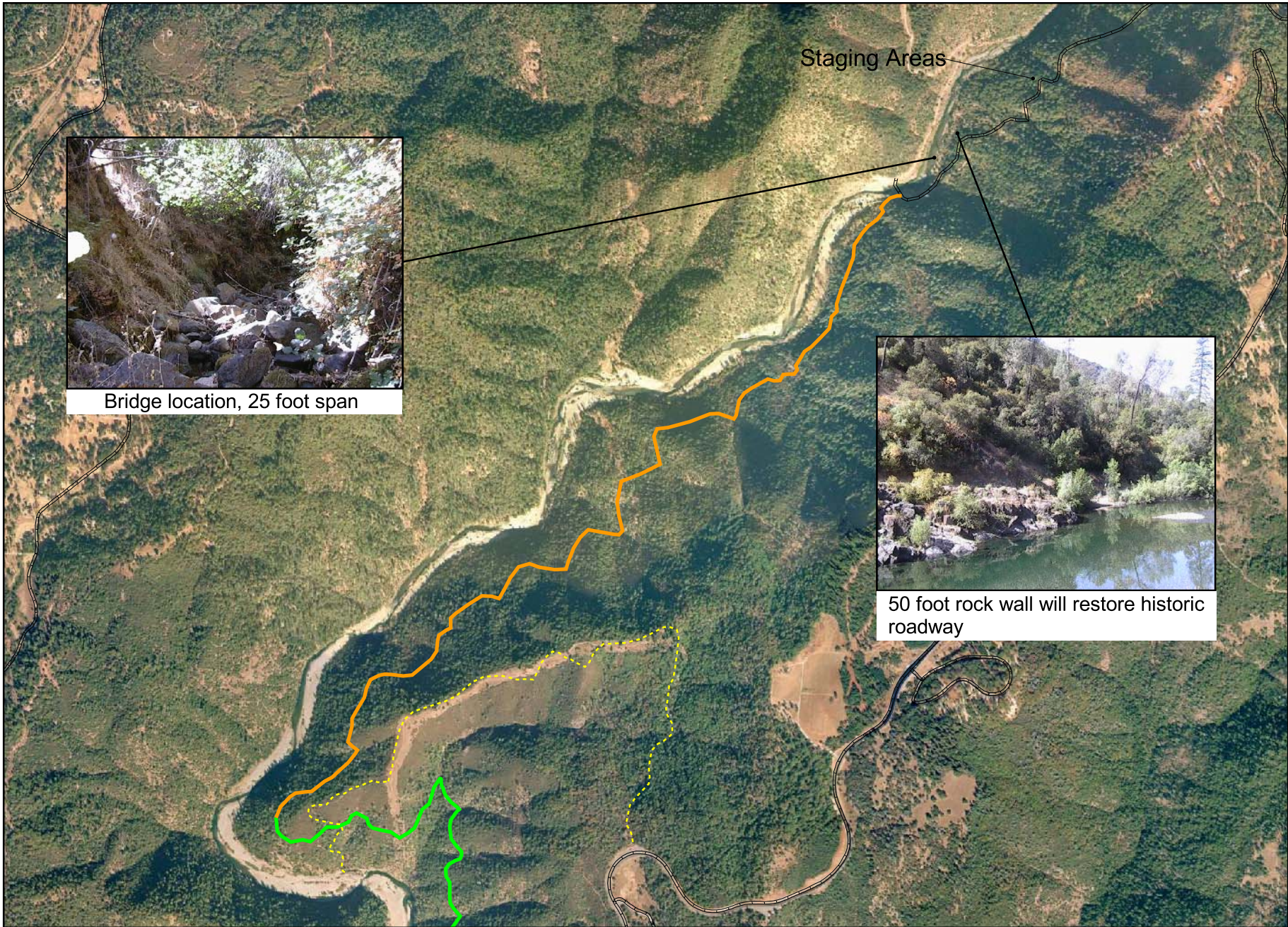
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Cost Summary pg 1 (2)

9/19/2003

Cost Summary Estimate	UNIT	UNIT COST	ADMINISTRATIVE OVERHEAD PERCENT	TOTAL
Permit Costs:				
Fish and Game	1 ea	\$1,500.00		\$1,500.00
Cost of Materials:				
Attached Trail Maintenance Cost Sheets	1 ea	\$32,277.11		\$32,277.11
Attached Material Cost Sheet	0 ea			\$0.00
Labor Costs:				
Labor (CCC Costs)	57409 hr	\$13.00		\$746,313.98
CCC Travel time	8201 hr	\$13.00		\$106,616.28
Supervision / Coordination:				
Supervision -Technical Supervisor	5920 hr	\$27.00		\$159,840.00
Equipment Rental Costs:				
Excavator	24 hr	\$100.00		\$2,400.00
Operator	24 hr	\$35.00		\$840.00
Pick Up Truck	740 day	Supplied		\$0.00
Estimated milage	11100 miles	\$0.30		\$3,330.00
Staging Area Improvements:				
Forest Hill Bridge	1 ea	\$20,000.00		\$20,000.00
Ponderosa	1 ea	\$12,000.00		\$12,000.00
Sign Package	1 ea	\$5,000.00		\$5,000.00
Interpretive Displays:	1 ea	\$18,000.00		\$18,000.00
Resource Mitigation Items				
Straw Bales, Sand bags, Silt fencing etc.	1 ea	\$10,622.00		\$10,622.00
Contingency: 15%	1 ea	\$167,810.91		\$167,810.91
Total Cost				\$1,286,550

CONSTRUCTION OR MAINTENANCE ACTIVITY	TOTALS	UNIT	PERSON HOURS OR COST PER UNIT	TOTAL PERSON HOURS	MATERIAL / EQUIPMENT COST	<u>Material Costs Index</u> <u>Unit Cost</u> <u>Unit</u>		
New Trail Clearing	16483	100ft	@	6.00 hr =	988.98			
Trail Reroute & Reconsruction								
Hand Crew Construction/Reconstruction of 48" Tread								
Medium - Soil and Rock Matrix	8242	lin ft	@	0.40 hr =	3296.60			
Heavy - Talus slope/rocky	8242	lin ft	@	0.67 hr =	5494.67			
Retaining Wall Construction								
Rock								
General	1290	cu ft	@	1.50 hr =	1935.00			
Ponderosa Bridge Rock Wall	3000	cu ft	@	1.50 hr =	4500.00	\$4,866.67		
Riprap	1076	cu ft	@	1.50 hr =	1614.00			
Gathering Time for Rock	2366	cu ft	@	0.25 hr =	591.50			
Mixed by Hand	2.22	cu yd	@	8.00 hr =	17.78			
Form Boards materials	56.00	bd ft	@	1.00 bd ft		\$56.00		
Cement for Posts	11	sacks	@	\$6.00 ea		\$66.67		
Gravel Sand Cement Mix	2.22	cu yd	@	\$35.00 per yd		\$77.78		
Bridge Construction								
Standard Design	25	lin ft	@	16.00 hr =	400.00			
Bridge #2 Material cost	125	sq ft	Based on \$45 sqft Bid From Perma Post			\$5,625.00		
Silt Fence Installation	300	lin ft	@	0.10 =	30.00			
					Labor Hours	Materials		
					18868.53	\$10,692.11		



LEGEND

- Existing Trails
- Segment 1
- Segment 2
- Roads

0 0.3 0.6 Miles



SEGMENT 1
North Fork American River Trail
Placer County, California

CONSTRUCTION OR MAINTENANCE ACTIVITY	TOTALS	UNIT	PERSON HOURS OR COST PER UNIT	TOTAL PERSON HOURS	MATERIAL / EQUIPMENT COST
New Trail Clearing	12004	100ft	@ 6.00 hr =	720.24	
Trail Reroute & Reconsruction					
Hand Crew Construction/Reconstruction of 48" Tread					
Light - Primary soil matrix	4004	lin ft	@ 0.29 hr =	1161.16	
Medium - Soil and Rock Matrix	4000	lin ft	@ 0.40 hr =	1600.00	
Heavy - Talus slope/rocky	4000	lin ft	@ 0.67 hr =	2680.00	
Rock Excavation/Removal	1400	cuft	@ 1.00	1,400.00	
Retaining Wall Construction					
Rock					
General	1215	cu ft	@ 1.50 hr =	1822.50	
Riprap	1064	cu ft	@ 1.50 hr =	1596.00	
Rock for dry rock structure	84	cu yd	@ \$0.00 per yd		\$0.00
Gathering Time for Rock	2279	cuft	@ \$0.25 hr =	569.75	
Bridge Abutments-Mortor	180	cuft	@ 2.00 hr =	360.00	
Rock for mortared wall	7	cu yd	@ \$0.00 per yd		\$0.00
Gathering Time for Rock	180	cuft	@ 0.25 hr =	45.00	
Mortar	140	94 lb bags	@ \$5.00 bag		\$700.00
Bridge Construction					
Standard Design	24	lin ft	@ 16.00 hr =	384.00	
Bridge #2 Material cost	120	sq ft	Based on \$45 sqft Bid From Perma Post		\$5,400.00
Silt Fence Installation	100	lin ft	@ 0.10 =	10.00	
				Labor Hours	Materials
				12348.65	\$6,100.00



LEGEND

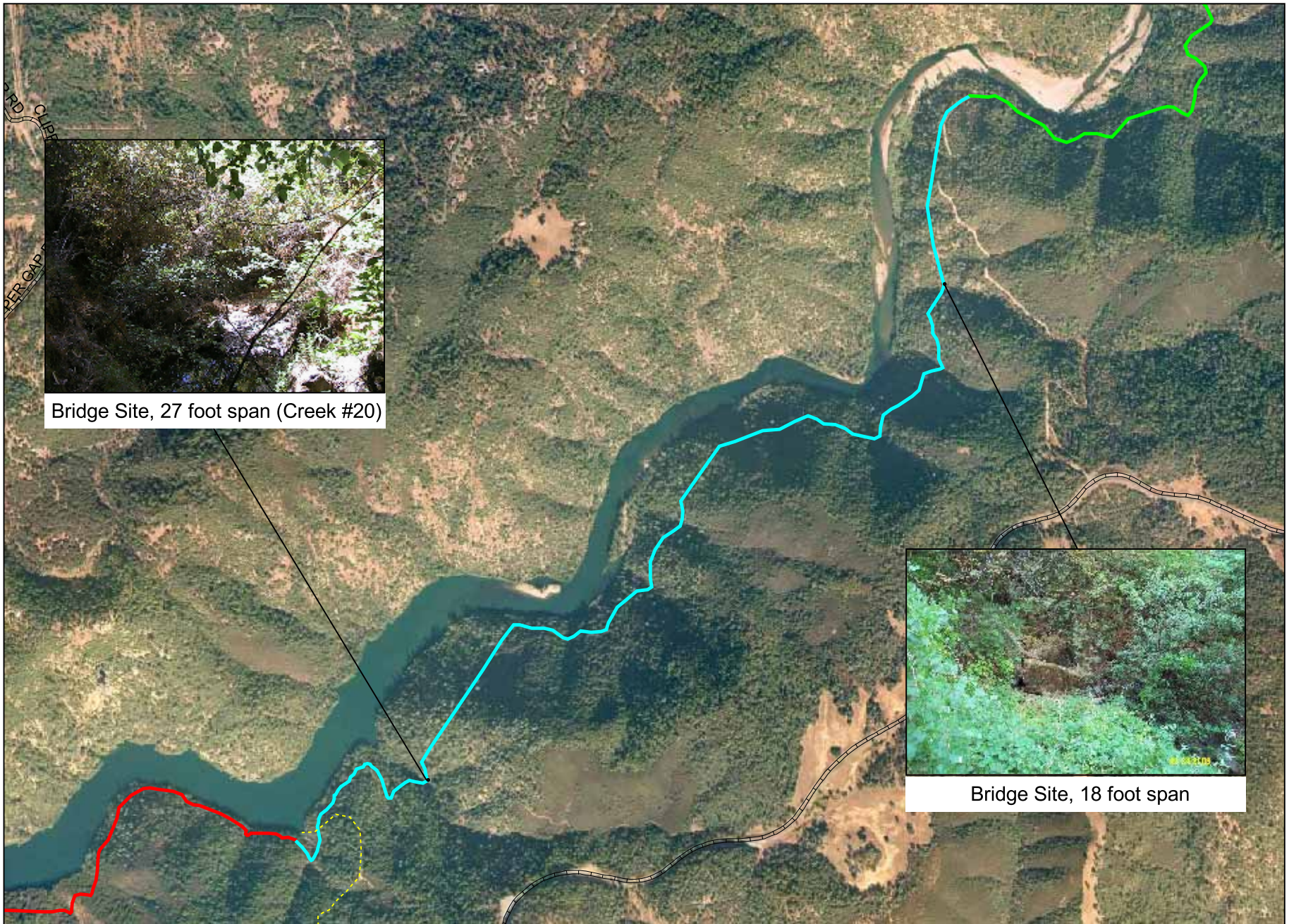
- Existing Trails
- Segment 1
- Segment 2
- Segment 3
- Roads

0 0.3 0.6 Miles



SEGMENT 2
North Fork American River Trail
Placer County, California

CONSTRUCTION OR MAINTENANCE ACTIVITY	TOTALS	UNIT	PERSON HOURS OR COST PER UNIT	TOTAL PERSON HOURS	MATERIAL / EQUIPMENT COST
New Trail Clearing	16872	100ft	@ 6.00 hr =	1,012.32	
Trail Reroute & Reconsruction					
Hand Crew Construction/Reconstruction of 48" Tread					
Light - Primary soil matrix	5624	lin ft	@ 0.29 hr =	1630.96	
Medium - Soil and Rock Matrix	5624	lin ft	@ 0.40 hr =	2249.60	
Heavy - Talus slope/rocky	5624	lin ft	@ 0.67 hr =	3768.08	
Rock Excavation/Removal	640	cuft	@ 1.00	640.00	
Retaining Wall Construction					
Rock					
General	1890	cu ft	@ 1.50 hr =	2835.00	
Riprap	944	cu ft	@ 1.50 hr =	1416.00	
Rock for dry rock structure	105	cu yd	@ \$0.00 per yd		\$0.00
Gathering Time for Rock	2834	cuft	@ \$0.25 hr =	708.50	
Mixed by Hand	80.00	cu yd	@ 8.00 hr =	640.00	
Form Boards materials	160.00	bd ft	@ 1.00 bd ft		\$160.00
Cement for Posts	400	sacks	@ \$6.00 ea		\$2,400.00
Gravel Sand Cement Mix	80.00	cu yd	@ \$35.00 per yd		\$2,800.00
Bridge Construction					
Standard Design	45	lin ft	@ 16.00 hr =	720.00	
Bridge #2 Material cost	225	sq ft	Based on \$45 sqft Bid From Perma Post		\$10,125.00
Silt Fence Installation	100	lin ft	@ 0.10 =	10.00	
				Labor Hours	Materials
				15630.46	\$15,485.00



Bridge Site, 27 foot span (Creek #20)



Bridge Site, 18 foot span



LEGEND

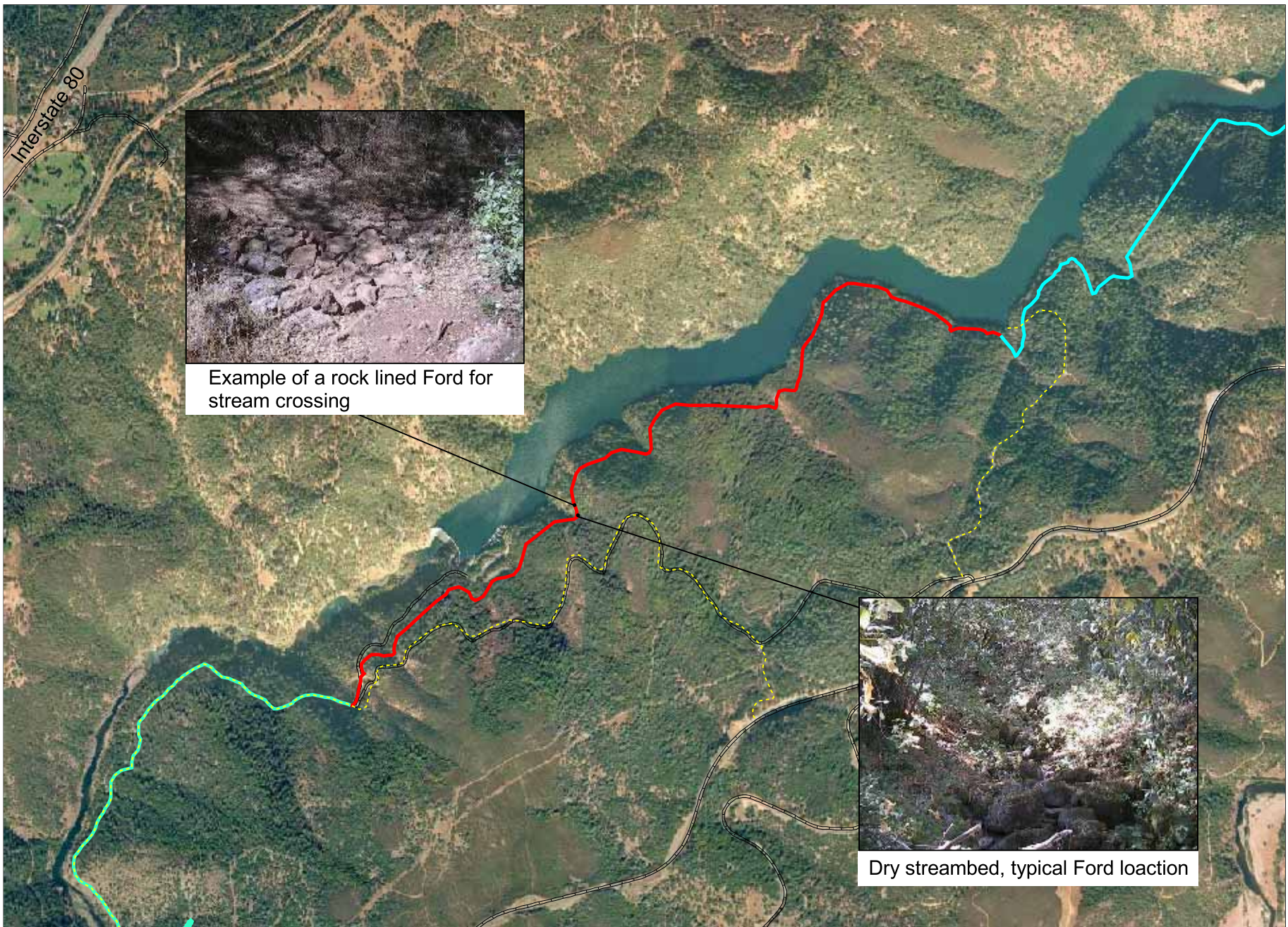
- Existing Trails
- Segment 2
- Segment 3
- Segment 4
- Roads

0 0.3 0.6 Miles



SEGMENT 3
North Fork American River Trail
Placer County, California

										<u>Material Costs Index</u>	<u>Unit Cost</u>	<u>Unit</u>
CONSTRUCTION OR MAINTENANCE ACTIVITY	TOTALS	UNIT		PERSON HOURS OR COST PER UNIT		TOTAL PERSON HOURS		MATERIAL / EQUIPMENT COST				
New Trail Clearing	12261	100ft	@	6.00	hr =	735.66				aggragate	\$35.00	yard
Trail Reroute & Reconsruction										Mortar 94lb bag	\$5.00	bag
Hand Crew Construction/Reconstruction of 48" Tread										3/8" cable galvanized	\$0.90	lin ft
Medium - Soil and Rock Matrix	6131	lin ft	@	0.40	hr =	2452.20				3/8" cable clamps	\$0.75	ea
Heavy - Talus slope/rocky	6131	lin ft	@	0.67	hr =	4107.77				Rebar 5/8"	\$0.25	lin ft
Rock Excavation/Removal	640	cuft	@	1.00		640.00				Wood Beam Stock	\$2.50	bd ft
Retaining Wall Construction												
Rock												
General	810	cu ft	@	1.50	hr =	1215.00						
Riprap	576	cu ft	@	1.50	hr =	864.00						
Rock for dry rock structure	51	cu yd	@	\$0.00	per yd			\$0.00				
Gathering Time for Rock	1386	cuft	@	\$0.25	hr =	346.50						
Silt Fence Installation	400	lin ft	@	0.10	=	40.00						
						Labor Hours		Materials				
						10401.13		\$0.00				



Example of a rock lined Ford for stream crossing

Dry streambed, typical Ford loaction



LEGEND

- Existing Trails
- Segment 3
- Segment 4
- Segment 5
- Roads

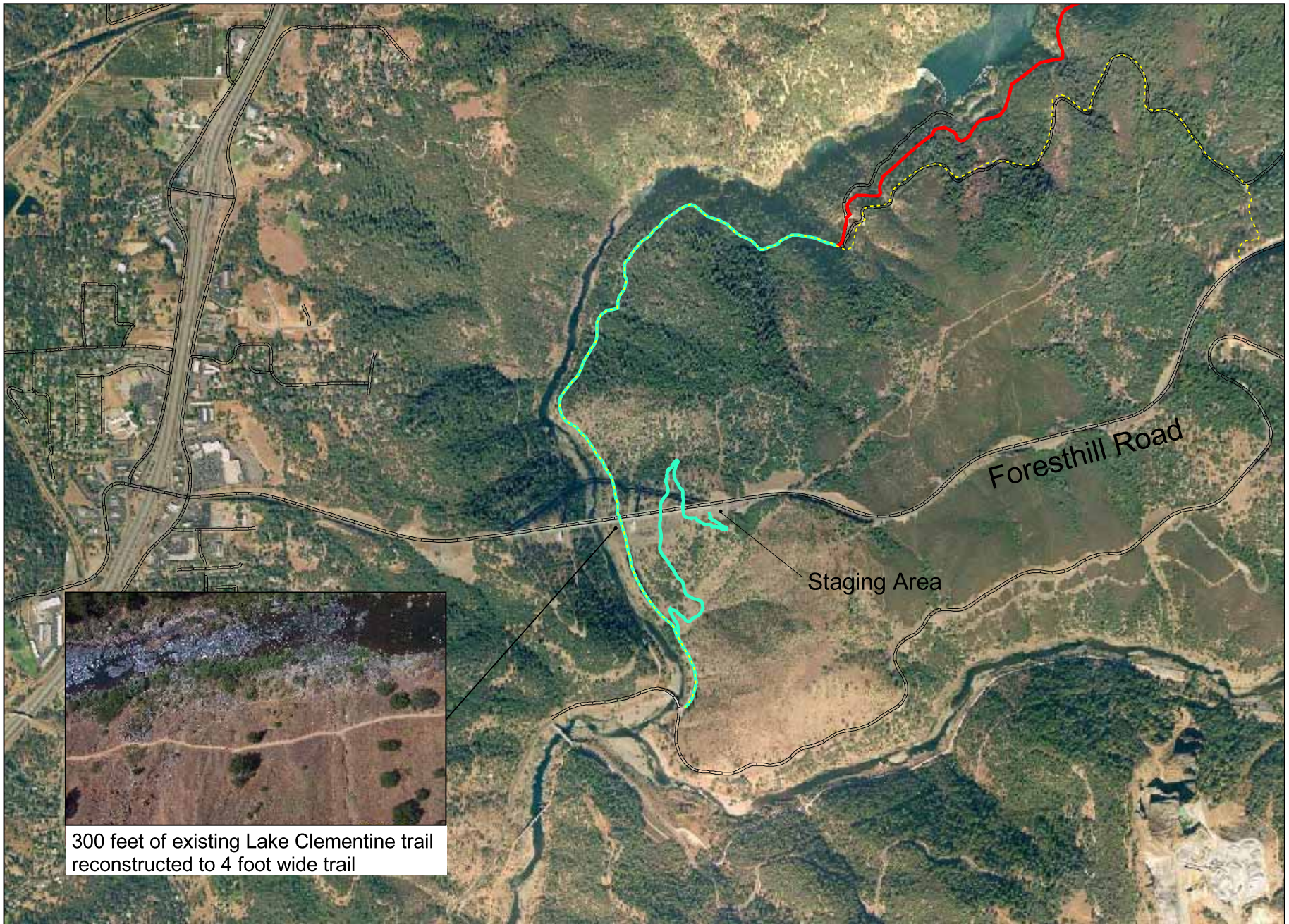
0 0.3 0.6 Miles



SEGMENT 4

North Fork American River Trail Placer County, California

CONSTRUCTION OR MAINTENANCE ACTIVITY	TOTALS	UNIT	PERSON HOURS OR COST PER UNIT	TOTAL PERSON HOURS	MATERIAL / EQUIPMENT COST
Trail Reroute & Reconsruction					
Hand Crew Construction/Reconstruction of 48" Tread					
Medium - Soil and Rock Matrix	400	lin ft	@ 0.40 hr =	160.00	
				Labor Hours	Materials
				160.00	\$0.00



LEGEND

-  Existing Trails
-  Segment 4
-  Segment 5
-  Roads

0 0.3 0.6 Miles



SEGMENT 5
North Fork American River Trail
Placer County, California